CLAIMS

What is claimed is:

1. An implantable pacemaker/defibrillation device comprising:
pacing pulse generation circuitry;
defibrillation shock generation circuitry;
a first power source employing polycarbon monofluoride (CF_x) to provide power for the pacing pulse generation circuitry; and
a second power source employing lithium manganese dioxide ($LiMn0_2$) to provide power for the defibrillation shock generation circuitry.

2. The device of claim 1 configured as a prophylactic device for delivering defibrillation shocks in response to a single episode of ventricular fibrillation.

3. The implantable device of claim 2 configured to be capable of delivering up to six defibrillation shocks in response to the single episode of ventricular fibrillation.

4. The implantable device of claim 3 wherein the individual defibrillation shocks have energies in the range of 10 - 40 joules.

5. The implantable device of claim 1 further comprising control circuitry operative to control the pacing pulse generation circuitry and the defibrillation shock generation circuitry and wherein the first power source additionally provides power for the control circuitry.

6. The implantable device of claim 1 wherein the defibrillation shock generation circuitry includes a capacitor operative to store charge for a defibrillation shock.

7. The implantable device of claim 6 wherein the capacitor is a tantalum capacitor.

8. The implantable device of claim 6 wherein the capacitor is an aluminum oxide capacitor.

9. The implantable device of claim 6 further comprising charging circuitry operative to charge the capacitor for delivering a defibrillation shock without any prior capacitor reformation.

10. The implantable device of claim 1 wherein the defibrillation shock generation circuitry is selectively coupled to a right ventricular coil electrode and a device housing electrode for delivering a ventricular defibrillation shock to the heart of a patient.

11. The implantable device of claim 10 wherein the pacing pulse generation circuitry is selectively coupled to ventricular tip and ring electrodes and right atrial tip and ring electrodes for delivering pacing pulses to the heart of the patient.

12. The implantable device of claim 11 wherein shunt diodes interconnect the right ventricular tip and ring electrodes and right atrial tip and ring electrodes, respectively.

13. The implantable device of claim 11 wherein the defibrillation shock generation circuitry and the pacing pulse generation circuitry are operative to hold the ventricular and atrial ring electrodes at a voltage equal to that of the right ventricular coil.

14. The implantable device of claim 10 wherein the pacing pulse generation circuitry is selectively coupled to a ventricular tip electrode and the pacing pulse generation circuitry is operative to deliver

pacing pulses to the right ventricular between the right ventricular tip electrode and the right ventricular coil.

15. The implantable device of claim 10 wherein the defibrillation shock generation circuitry is also selectively coupled to a superior vena cava (SVC) electrode for use in delivering defibrillation shocks in combination with the right ventricular coil.

16. The implantable device of claim 15 wherein the SVC electrode is hard connected to the device.

17. An implantable pacemaker/defibrillation device comprising:
pacing pulse generation circuitry;
defibrillation shock generation circuitry;
a first low rate, long life power source power source for the pacing pulse generation circuitry; and
a second high rate, short life power source employing lithium manganese dioxide ($LiMn0_2$) to provide power for the defibrillation shock generation circuitry.

18. An implantable pacemaker/defibrillation device comprising:
pacing pulse generation circuitry;
defibrillation shock generation circuitry;
a first low rate, long life power source employing polycarbon monofluoride (CF_x) to provide power for the pacing pulse generation circuitry; and
a second high rate, short life power source to provide power for the defibrillation shock generation circuitry.

19. A method for delivering ventricular defibrillation therapy using implantable medical devices, the method comprising the steps of:

implanting a prophylactic ventricular defibrillator configured to deliver shocks in response only one episode of ventricular fibrillation, the defibrillator having pacing pulse generation circuitry, defibrillation shock generation circuitry, a first power source employing polycarbon monofluoride (CF_x) for providing power for the pacing pulse generation circuitry, and a second power source employing lithium manganese dioxide ($LiMn0_2$) for providing power for the defibrillation shock generation circuitry; and

following delivery of shocks in response to a first episode of ventricular fibrillation, removing the prophylactic ventricular defibrillator and implanting an implantable cardioverter defibrillator (ICD) capable of delivering shocks in response multiple episodes of ventricular fibrillation and atrial fibrillation.

20. An implantable medical device comprising:

means for generating pacing pulses;

means for generating defibrillation shocks;

means employing polycarbon monofluoride (CF_x) for providing power for the pacing pulse generation circuitry; and

means employing lithium manganese dioxide ($LiMn0_2$) for providing power for the defibrillation shock generation circuitry.

21. A method for providing pacing and defibrillation therapy using an implantable medical having pulse generation circuitry and defibrillation shock generation circuitry, comprising the steps of:

upon detecting a need for pacing therapy, selectively delivering power from a first power source employing polycarbon monofluoride (CF_x) to pacing pulse generation circuitry for generating pacing pulses; and

upon detecting a need for ventricular defibrillation therapy, selectively delivering power from a second power source employing lithium manganese dioxide ($LiMn0_2$) to the defibrillation shock generation circuitry for generating shocks for ventricular defibrillation.